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EXAMINER

NGUYEN, ANTHONY H

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Claim Objections***

Claims 11, 19, 20, 23, 24, 36, 38 and 53-62 are objected to because it is unclear how the “diffraction grating forming means” can contact a portion of the curable compound (claim 11, lines 4 and 5). In claim 38, applicant claims two embodiments in this claim. Different embodiments must be claimed in different claims. This objection could be overcome by limiting claim 38 to one embodiment and adding a new dependent which recited the second embodiment. Claim 55 is improper Markush claims because the term "consisting of" is not present. The term "consisting of" **must** be present in all Markush claims. See MPEP 2173.05 (h). In claim 62, it is unclear how the grating can be viewable from the first surface wherein the first surface is opaque. There is no proper antecedent basis for “the thickness of pigment particles” (claims 56 and 57, line 2). Additionally, the elements "pigment particles" (claims 56 and 57, line 2) are inferentially recited.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 19, 20, 23, 24, 36, 38 and 53-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

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matter which applicant regards as the invention. Specifically, claim 11 appears to be incomplete or the language “in the range of 0.2 to 0.8” (line 8) is indefinite and fails to particularly point out a unit or a measurement system of optical density for the range.

To the extent the claims are definite and positively recited limitations, it appears that the following prior art rejection is proper.

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 19, 20, 23, 24, 36, 38 and 53-62 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over D’ Amato et al. (US 4,933,120) in view of Meikka et al. (US 6,666,995).

With respect to claims 11 and 53, D’ Amato et al. teaches a method for forming a hologram having steps of applying a curable compound (liquid resin material 69) to at least a portion of a substrate 11, contacting at least a portion of the curable compound with a diffraction grating forming means 61 (Fig.3, col.5, lines 24-40), curing the curable compound via a radiation source 79, depositing a thin metallic layer on the at least a portion of the cured compound (col.6, lines 19-36). D’ Amato et al. does not clearly teach the depositing a metallic ink on the cured compound. Meikka et al. teaches the use of conventional metallic flake and

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powder pigments which are formed as inks which are applied to a substrate (col.2 lines 7-9 and col.10 lines 31-34). In view of the teaching of Meikka et al., it would have been obvious to one of ordinary skill in the art to modify the thin metallic layer of D' Amato et al. by providing the metallic ink as taught by Meikka et al. to improve the efficiency of depositing a metallic material on a portion of the cured compound if in fact D' Amato et al. does not teach the use of metallic ink. Additionally, with respect to claims 11, 19, 20, 24, 56 and 57, the selection of a desired range of thickness of pigment particles and the optical density so that the percent of light transmission can go through would be obvious through routine experimentation depending upon the use of a substrate to be printed and the type of metallic ink to be used for printing to obtain a desired optical effects.

With respect to claims 54, 55 and 58, the curable composition which is lacquer and the use of a substrate which is translucent and metallic ink which comprises metal pigment particles such as gold or aluminum and binder is well known in the art. For example, see Meikka et al., col.2, lines 26-31.

With respect to claims 59, Meikka et al. teaches the step of depositing by printing (col.3, lines 41-43), and Amato et al. teaches that the depositing is by printing via an anilox roll 71 and a transfer roll 73 (Fig.3 and col.5, third paragraph).

With respect to claims 60 and 61, D' Amato et al. teaches the hologram 15 (Fig.8) which is viewable from at least one surface (col.2, lines 32-41 and col.3, third paragraph).

With respect to claim 62, the use of gravure printing for depositing is conventional as exemplified by Meikka et al. (col.5, lines 32-35) and acknowledged by applicant (the specification, page 11, line 6).

### *Response to Arguments*

Applicants' arguments filed on July 30, 2009 have been fully considered but they are not persuasive.

Applicant argues that D' Amato et al. does not teach the use of a translucent metallic ink to form the metal layer and that D' Amato et al. does not produce an image viewable from a first and second surface.

However, applicant's argument is more specific than the limitation in the claims. For example, there is no "translucent metallic ink" limitation in any claims. Also, as explained above, D' Amato et al. teaches an image which can be view at least one side.

Applicant argues that Meikka et al. teach the process for making veryin, brigh embossed metallic flake pigments so that the combination of D' Amato et al. and Meikka et al. fails to teach the method as recited.

It is noted that while D' Amato et al. does not teach clearly the use of metallic ink, Meikka et al. is cited to show the conventional use metallic ink which is deposited on a cured compound. Therefore, the combination of D' Amato et al. and Meikka et al. renders obvious the method for forming a holographic diffraction grating on a substrate as recited in the claims.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory

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period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Nguyen whose telephone number is (571) 272-2169.

The examiner can normally be reached daily from 9 AM to 5PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen, can be reached on (571) 272-2258.

The fax phone number for this Group is (571) 273-8300.

/Anthony H Nguyen/  
Primary Examiner, Art Unit 2854